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## Breeding and other observations on the Slaty Egret *Egretta vinaceigula*

by R. J. Dowsett

Received 14 October 1980

The specific status of the Slaty Egret *Egretta vinaceigula* has only recently been established with certainty, and many aspects of its biology are quite unknown. In particular, there has been no information on its breeding behaviour (Hancock & Elliott 1978), with no nest hitherto observed, although Benson, Brooke & Irwin (1971) mention sighting an unapproachable colony on the Chobe River in northern Botswana in May 1971. Thus one of my aims during a visit to the swamps of the Okavango region of Botswana in 1975 was to search for nests.

### BREEDING IN BOTSWANA

I spent 3 days in June visiting, by boat, parts of the Moremi Wildlife Reserve, in company with P. A. Smith and J. Steen. On 15 June, Smith took me to a mixed heronry on Xakanaxa *lediba* (=lagoon), at 19° 11'S, 23° 23'E. There was little breeding activity, but we did find an occupied nest of the Slaty Egret. As our boat approached, one of the adults would slip off the nest, creep through the thicket of wild fig, *Ficus verruculosa*, which the heronry occupied, and then fly off. A second adult was sometimes nearby. There were 3 pulli in the nest; 2 were rather larger than the third and they would usually climb off into the thicket before we were near.

Two others, apparently a pair, were often seen on the other side of the colony, but we did not find their nest. A further 8 Slaty Egrets were present in the *Ficus* at dusk on 15 June, and elsewhere in Moremi we saw 4 single birds loosely associating together at a pool. During the 3 days I spent in the Okavango swamps I saw no Black Egrets *E. ardesiaca*.

Accounts of the Xakanaxa heronry have been published by Berry (1968), Child (1972), Fraser (1971) and Steyn (1970). (The spelling of this locality name has varied, but P. A. Smith tells me that the official vernacular spelling is as I have it here.) These authors mention several species of water birds breeding there (some of which I also found in June), but no Slaty Egrets, and I am unaware of any observations of this species since my own. Their visits to the heronry were later in the year than mine, which may explain why they failed to find Slaty Egrets if they usually breed about May and June.

### DESCRIPTION OF NEST AND NESTLING

The extensive thicket of *Ficus verruculosa* in which the Xakanaxa heronry

is situated is on the edge of a large lagoon. The nest was placed just below the canopy, some 2 m above water level, and was 32 cm in diameter.

The 2 larger nestlings were active and were not handled. The smallest nestling was examined in the hand when the nest was first found, and was collected as a specimen on 16 June when we had confirmed the identity of the nest owner. It is now preserved in the collection of the National Museum of Botswana at Gaborone.

The feather tracts of the nestling are mostly covered with long sooty black down. The feather sheaths on the wings and tail are starting to sprout feathers, again sooty black. Some of the down on the belly is greyer than that elsewhere. On the ventral side there are feather tracts down both flanks, with a broad median apertium. Dorsally, there is a thick tuft of down on the crown, developing into two caudal tracts, a spinal tract and two long humeral tracts.

The nestling had the iris coloured mid-brown; bill pinkish horn, extreme tip dark; tarsus and toes pea green in front, with chrome yellow soles and hind tarsus; all the body skin greenish, with the gular region yellowish green; toe nails pale horn. The specimen was subsequently prepared as a study skin out of formalin, and within one month the tarsi had become blackish and much thinner than in life. In a mixed heronry the thick, pea green legs and yellowish throat skin should identify a very young Slaty Egret. Measurements of the dried-out specimen are: culmen (exposed) 28 mm and tarsus 31 mm. In the flesh these measured respectively 30 and 37 mm.

This specimen has been compared to a rather older nestling of Black Egret in the collection of the Livingstone Museum, Zambia. The bill and tarsus of the Black Egret are recorded as black on the label, but the feet show the yellow colour which is also present in adults. No other important differences are obvious at this early age, but it is interesting that leg colours do differ, as in adults of the two species.

#### COMPARISON OF SLATY EGRET AND BLACK EGRET

My own observations in Botswana and Zambia support the contention of Benson, Brooke & Irwin (1971) and Vernon (1971) that there are consistent differences in morphology and behaviour between the Slaty and Black Egrets. Benson, Brooke & Irwin wrote at a time when only 3 specimens of Slaty Egret were known. Subsequently, Irwin (1975) has described another 2 specimens and suggested further diagnostic morphological characters. Two specimens have since been obtained in Zambia, and are in the collection of the Livingstone Museum. One is a non-breeding ♀ collected at Maala, on the Kafue River near Namwala (Southern Province), on 23 June 1974 (J. F. R. Colebrook-Robjent); the other is a non-breeding ♂ from 32 km northwest of Mongu in Western Province, obtained on 23 August 1975 (T. O. Osborne).

#### *Colour differences*

All 7 specimens now known, together with numerous field observations, confirm the considerable variation in the colour of the underparts of the Slaty Egret. There is also some variation in the length of the occipital plumes, but 11 of the 12 birds I watched closely in the Okavango in June 1975 had short plumes – most of them very short – although one very dark coloured adult had very long plumes. The colour of body plumage at Okavango

varied quite extensively, but all were predominantly slate in colour. In my experience even the darkest Slaty Egret is never as black as Black Egrets, but F. Dowsett-Lemaire and I once saw at Lochinvar National Park in Zambia on 12 August 1978 a Black Egret which was as pale slate-grey as any Slaty. The bird was a typical Black Egret in all other respects: it lacked any vinous or buffy throat patch, had black legs and yellow feet, and hunted food by "umbrella-ing" with its wings. Although plumage differences between the two species are usually diagnostic in the field, care does need to be exercised, and further observations are needed to determine if there are any seasonal changes in the colour of plumage, legs and bill of Slaty Egrets.

Milewski (1976) correctly suggested that the most useful feature for identifying the Slaty Egret is the chrome yellow tarsus and foot, but he was wrong to state that this character had not been pointed out before, as it has been well-known to observers in Zambia and was stressed by Berry (1974). The yellow-green tarsal colour of all collected specimens (Benson, Brooke & Irwin 1971, Irwin 1975) confirms that this is a consistent character, though one which is subject to *post mortem* change.

### *Weights*

Weights are now available for 5 Slaty Egrets, namely 2 that I caught for ringing in Zambia at Lochinvar, the 2 Zambian specimens and one from the Okavango quoted by Milewski (1976). The 4 Zambian birds range 250–297 g, mean 275 g, while the Okavango bird weighed 340 g. In comparison, the weights of Black Egrets caught for ringing at Lochinvar by J. D. Mbewe and A. S. Muyundu were 270–390 g, mean 324 g ( $n=7$ ), while a specimen from Botswana is quoted by Benson, Brooke & Irwin (1971) as weighing 14½ oz (=c. 410 g). These data suggest that Slaty Egrets average somewhat lighter than Black Egrets. On the basis of wing, culmen and tarsus measurements of the few specimens examined, Benson, Brooke & Irwin (1971) and (Irwin 1975) had suggested that the Slaty is consistently the smaller species.

### *Feeding methods*

Ways in which the feeding habits of Slaty and Black Egrets differ have been suggested by Vernon (1971) and Milwesi (1976), and our observations in Zambia generally are in accord. I know of no proven instance of Slaty Egrets using the "umbrella" method of prey hunting so typical of Black Egrets, and Irwin (1975) has suggested structural differences in their wings to explain this behaviour.

Outside the immediate vicinity of a heronry, Slaty Egrets are typically seen at pans and pools on floodplains. Although they do overlap with Black Egrets on the shallow edge of floodwaters, they are rarely to be seen in the deeper waters fished by Black Egrets. The nestling Slaty Egret in Botswana regurgitated 4 small fish when first handled, and when collected the next day its stomach contained remains of at least 8 more small fish, each 30–40 mm in length.

### *Voice*

Slaty Egrets are quiet birds, although an adult flushed from the nest did utter a few heron-like squawks while perched and watching us from a distance. Black Egrets frequently utter a similar call when feeding communally.

## DISTRIBUTION OF THE SLATY EGRET

The distribution of the Slaty Egret as then known was mapped by Snow (1978: 20). Recent observations extend its range northwards in Zambia to the Bangweulu swamps (Berry 1974, D. R. Aspinwall) and Nchelenge District at Kabendwe (8° 28'S, 29° 17'E), almost on the Zaire border (Aspinwall 1978). In Zambia the species is most often reported from the floodplains of the Kafue Flats (Blue Lagoon and Lochnivar National Parks) and of the Liuwa Plain National Park.

It occurs widely in the wetlands of northern Botswana, with one sighting as far south as Maun (Milewski 1976), and there is a specimen from Kabuta in the Caprivi Strip (Smithers 1964). A single Slaty Egret was reported from 2 localities near Salisbury in Zimbabwe in September and November 1978 (Evans 1979, Tree 1979). However, 2 sight records from Malawi (Day & Hammer 1978) are not entirely convincing, in particular since neither refers to the conspicuously yellow tarsi. The status of the 2 specimens (including the type) from Potchefstroom in the Transvaal of South Africa in 1895 is unclear (Benson, Brooke & Irwin 1971), there being no other records south of northern Botswana.

Up to the end of 1978 there were some 55 fully acceptable dated records from Zambia, for the following months: Jan. 4, Feb. 1, Mar. 2, Apr. 2, May 4, June 6, Jul. 8, Aug. 4, Sep. 4, Oct. 7, Nov. 10, Dec. 3. Most floodplains are difficult of access during the rains, between about December and April, but I lived continuously in one key area (Lochnivar National Park) for 2½ years 1968-71; other ornithologists to have lived there are R. J. Douthwaite and T. O. Osborne. Our continuous observations over several years provide no evidence of substantial movement by the Zambian population. However, Slaty Egrets have been observed during the rains in places that are completely dry for much of the year. Conversely, increased numbers during the dry season on the Liuwa Plain and the Kafue Flats (when parties of up to 30 are not uncommon) may suggest some regularity of movement, perhaps as post-breeding dispersal. Published dates from Botswana are even more influenced by the seasonal movements of ornithologists.

There is so far no evidence of the Slaty Egret breeding in Zambia, although it may be expected to do so. Peak numbers of Black Egrets on the Kafue Flats are during the rains, but the 2 species may breed at much the same time of year, all egg-laying records for Black Egret in Zambia (Benson, Brooke, Dowsett & Irwin 1971 and subsequent data) being from March to June.

Irwin (1975) has suggested that the Slaty Egret may be a relict species with a naturally declining population. However, its range may well be found to be more extensive than hitherto supposed, as more observers realise the distinctness of its field characters. On present evidence its distribution is strangely limited, and it could well be especially vulnerable to land-use alteration, such as the dams affecting flood levels on the Kafue Flats in Zambia and projects to utilise the waters of the Okavango swamps in Botswana. It should be considered an endangered species.

*Acknowledgments:* My visit to Botswana was requested by U.N.D.P.'s Investigation of the Okavango Delta project (through Mr. H. M. Ernest), and I received much-appreciated assistance there from Messrs. W. L. Astle, P. A. Smith and J. Steen. Authority to collect a nestling Slaty Egret was obtained through the co-operation of Dr. W. von Richter of the Botswana Department of Wildlife and National Parks. I am grateful to those observers in Zambia who have submitted records, Messrs. C. W. Benson, R. J. Douthwaite and M. P. Stuart Irwin have kindly commented on a draft of this paper.

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## Observations on some Palearctic land birds in Ghana

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Received 15 November 1980

In his classic paper on problems of Mediterranean-Saharan migration Moreau (1961) drew attention to the paucity of published evidence for the occurrence of many species of Palearctic birds in West Africa. This situation began to be rectified with the appearance of major papers from Senegal (Morel & Roux 1966) and Nigeria (Elgood *et al.* 1966). Subsequent information for Nigeria, published in the *Bulletin of the Nigerian Ornithological Society*, was partly used by Moreau (1972) and further data appeared for Senegal (Morel & Roux 1973) and for the Ivory Coast (Brunel & Thiollay 1969, 1970). Over a number of years we kept records of Palearctic land birds in Ghana, of which the following add to our present knowledge.

Our observations mainly relate to 2 savanna areas; one in the north and one in the south of the country. Data from the northern savanna, especially around Bolgatanga (10° 48'N, 0° 51'W), were collected over 3 seasons (1970-1973) by J.F.W.; that from the Accra Plains in the south, particularly in the area around the University of Ghana at Legon (5° 38'N, 0° 11'W), were collected over several years by L.G.G. Reference is also made to records by M. Wink made during 2 short stays in February and March 1972 and 1973 (Wink 1976) and to the more extensive records of Sutton (1970), Macdonald (1978) and M. Lockwood (in prep.).